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ASSESSMENT ENGINE

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10 1. **FIELD OF THE INVENTION**

The present invention generally relates to assessing one or more parameters via an assessment engine. More specifically, the present invention relates to an assessment engine that generates functions for the assessment of one or more parameters.

15 2. **BACKGROUND**

Many people have the need to make accurate assessments. A person may wish to purchase an automobile that has a specific color, engine size, condition, and mileage. However, choosing the "best" automobile may be difficult because of the large number of automobiles that are available for purchase. The person may also need to evaluate a
20 number of employees based upon a large number of parameters. Such evaluations can be difficult and extremely laborious. Further, the person may need to evaluate which of a

number of potential customers that he should spend limited marketing dollars upon.

Making such a determination can be very challenging.

Thus, there is a need for a tool that will enable a user to rapidly make accurate assessments such as those discussed above.

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3. SUMMARY OF INVENTION

One embodiment of the invention is a method of generating a function, the function for assessing a parameter. The method includes: displaying a field for receiving a rule on a computer; entering a rule into the computer; transmitting the rule to a server; storing the rule on the server; and generating a function for assessing the parameter.

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Another embodiment of the invention is a program storage device containing instructions that when executed by a computer perform the following acts: display a field for receiving a rule; transmit a rule to a server; display a field for receiving a parameter; and display an assessment.

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Another embodiment of the invention is a program storage device containing instructions that when executed by a server perform the following acts: receive a rule from the computer; and generate a function for assessing a parameter.

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Still another embodiment of the invention is a method of displaying an assessment on a computer. The method includes: displaying a field for receiving a parameter name on a computer; entering a parameter name into the computer; displaying a field for receiving a parameter type on the computer; entering a parameter type into the computer; displaying a field for receiving a rule on a computer; entering a rule into the computer; transmitting the parameter name, the parameter type and the rule to a server; storing the

parameter name, the parameter type and the rule on the server; generating a function for assessing a parameter; verifying that the function is valid; if the function is not valid, then displaying a screen on the computer that allows editing of the rule; displaying a field for receiving a parameter; entering a parameter into the computer; transmitting the parameter to the server; generating an assessment of the parameter; transmitting the assessment from the server to the computer; and displaying the assessment on the computer.

4. BRIEF DESCRIPTION OF THE FIGURES

Figure 1 presents a flow chart of one method of displaying an assessment.

Figure 2 presents a computer display, *i.e.*, a “screen,” that contains fields for receiving a parameter name, a parameter type, and a rule.

Figure 3 presents a screen that contains a field for editing a rule.

Figure 4 presents a screen that contains fields for receiving one or more parameters.

Figure 5 presents a screen that displays an assessment.

Figure 6 presents a screen that allows selection of a parameter.

Figure 7 presents a flow chart of another embodiment of the invention.

Figure 8 presents a flow chart of still another embodiment of the invention.

5. DESCRIPTION OF THE PREFERRED EMBODIMENTS

The following description is presented to enable any person skilled in the art to make and use the invention, and is provided in the context of a particular application and

its requirements. Various modifications to the disclosed embodiments will be readily apparent to those skilled in the art, and the general principles defined herein may be applied to other embodiments and applications without departing from the spirit and scope of the present invention. Thus, the present invention is not intended to be limited to the embodiments shown, but is to be accorded the widest scope consistent with the principles and features disclosed herein.

Figure 1 presents a flowchart of a method of displaying an assessment. This method is easy to use by a non-technical individual. In addition, the method provides the individual with an extremely powerful engine for assessing one or more parameters.

10 Generally, the method allows a computer user to easily enter parameter information and a criterion for assessing one or more parameters. After entering such information, the user may then enter a number of parameters and the method will rapidly generate accurate assessments.

15 5.1 Entering a Parameter Name

As shown in block 101 of Figure 1, a computer program running on a computer first displays a computer display, *i.e.*, a “screen,” that contains a field for receiving a parameter name. An example of such a screen is shown in Figure 2. The parameter name is utilized to identify a particular parameter. The parameter name can be any combination of alpha/numeric characters. Examples of parameter names include: “Automobile color,” “Automobile horsepower,” “Automobile condition,” and Automobile mileage.” Referring to block 102, after the computer program has displayed the screen, the user would then enter the parameter name into the computer. If the

computer program is being run on a hand-held computer, then the user may enter the parameter name via a stylus. Alternatively, if the computer program is being run on a laptop or desktop computer, then the user may enter the parameter name via a keyboard, via mouse clicks or via voice recognition software.

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5.2 Entering a Parameter Type

Referring to block 103, the computer program would next display a screen with a field for receiving a parameter type on the computer. The parameter type indicates whether the parameter is a numeric parameter, such as 1, 2, -3.5, and 3.141, or a string parameter, such as “red,” “green,” and “white,” or another type of parameter.

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In some embodiments of the invention, the screen that contains the field for receiving the parameter type is the same screen that contains the field for receiving the parameter name. In other embodiments of the invention, the screen that contains the field for receiving the parameter name would be distinct from the screen that contains the field for receiving the parameter type.

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Referring to block 104, after the field for receiving the parameter type is displayed, the user would then enter the parameter type into the computer. As discussed above, the parameter type may be entered by numerous means.

20 5.3 Entering a Rule

After the user has entered the parameter name and the parameter type into the computer, as shown in block 105, the computer program displays a screen that contains a field for receiving a rule. As will be discussed in more detail below, the rule indicates the

value that a user places upon a particular parameter. In some embodiments of the invention, the screen that contains the field for receiving the rule is the same screen that contains the field for receiving the parameter type. In other embodiments of the invention, the screen that contains the field for receiving the rule would be distinct from
5 the screen that contains the field for receiving the parameter type.

Referring to block 106, after the screen that contains a field for receiving the rule has been displayed, the user enters a rule into the computer. As briefly discussed above, the rule indicates the value that a user places upon a particular parameter. For example, a rule, such as “if automobile color = ‘red’ then value = 100,” indicates that a user places
10 a value of 100 in his assessment if an automobile color is red. A more complex rule such as “if automobile color = ‘red’ then value = 100; if automobile color = ‘green’ then value = 50; if automobile color = ‘white’ then value = 10;” can indicate the value that a user places upon various automobile colors. Other rules such as “value = 0.5 * automobile horsepower” or “if automobile horsepower > 200 then value = 100” could indicate the
15 value that a user places upon automobile horsepower.

In some embodiments of the invention, the user may enter a rule in a particular computer language such as Basic, Virtual Basic, Pascal, Fortran, Java, C, C++, Cobol, or PL/SQL. However, in other embodiments of the invention, the rule may be entered in a more simplistic format such as shown above.

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5.4 Transmitting Information to a Server

After the parameter name, the parameter type, and the rule have been entered into the computer, as shown in block 107, they are transmitted to a server. In some

embodiments of the invention, they are transmitted over the Internet, a wide area network, or a wireless network. In other embodiments of the invention, they are transmitted over an intranet or a local area network.

After the server has received the parameter name, the parameter type, and the rule, as shown in block 108, they are stored on the server. In some embodiments of the invention they are stored in one or more database tables. In other embodiments of the invention they are stored in random access memory or a file, such as a flat file.

5.5 Generating a Function

After the server has received and stored the parameter name, the parameter type, and the rule, as shown in block 109, the server then generates a function for assessing the parameter. For example, if the server received a parameter name such as “automobile color” and received a parameter type such as “string” and received a rule such as “if automobile color = ‘red’ then value = 100,” then the server may generate the following

PL/SQL function:

```
function automobile_color (parameter_value <DATATYPE>) return NUMBER
as
begin
    if parameter_value like '%red%' then return 100;
end;
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While the above function is in PL/SQL, other embodiments of the invention would generate functions in other languages such as Basic, Virtual Basic, Pascal, Fortran, Java, C, C++, or Cobol.

5.6 Verifying the Function is Valid

Referring to block 110, the server next verifies that the function is valid. In one embodiment of the invention, the function is run through a syntax checker to determine if the function is valid. In another embodiment of the invention, the function is compiled.

- 5 If no errors were generated during the compilation, then the function is considered to be valid. Alternatively, if compiling the function generated an error, then, as shown in block 111, a screen will be displayed on the computer that allows the rule to be edited. An example of such a screen is shown in Figure 3. Some embodiments of the invention (not shown) also display context sensitive help regarding any errors in the user's rule that
- 10 cause the function to be invalid.

After the function has been determined to be valid, then the user can begin assessing various parameters.

5.7 Assessing Parameters

- 15 Next, as shown in block 112, the computer displays a screen that contains a field for receiving a parameter. An example of such a screen is shown in Figure 4. In some embodiments of the invention, such as shown in Figure 4, the screen would include the parameter name adjacent to the field for receiving the parameter. Next, as shown in block 113, the user enters a parameter into the computer. For example, the user may
- 20 enter the parameter 'red.' Then, as shown in block 114, the computer transmits the parameter to the server. In some embodiments of the invention, the parameter is transmitted over the Internet, a wide area network, or a wireless network. In other

embodiments of the invention the parameter is transmitted over an intranet or a local area network.

After the server receives the parameter, as shown in block 115, the server executes the previously generated function, and generates an assessment of the parameter. For example, if the server received the parameter 'red,' and the server executed the function of Section 5.5, then the server would generate an assessment equal to 100.

Next, as shown in block 116, the server would transmit the assessment to the computer. Then, as shown in block 117, the computer would display the assessment. An example of a screen that displays such an assessment is shown in Figure 5.

5.8 Other Embodiments of the Invention

In some embodiments of the invention, the user would enter various data such as parameter names, parameter types, rules, and parameters into a computer via a browser that is running on the computer. In addition, in such embodiments of the invention the assessment could also be displayed on the computer via a browser.

In some embodiments of the invention, numerous parameters can be utilized to generate an assessment. For example, an assessment may be generated by summing the output values of functions that are generated from the following rules: "if automobile color = 'red' then value = 100," "value = 0.5 * automobile horsepower," "if mileage < 100,000 then value = (100,000 - mileage)/1000," "if automobile condition = 'good' then value = 50," "if automobile condition = 'excellent' then value = 100."

In still other embodiments of the invention, if a user enters a parameter type that indicates that the parameter is a string, then the computer would display a screen (not shown) that contains fields for receiving valid strings such as 'red,' 'green,' and 'white.' Thus, when the user is making an assessment, the computer would include the valid strings on the screen for receiving the parameter. For example, as shown in Figure 6, the computer could display a screen that contains radio buttons next to each of the following valid strings: 'red,' 'green,' and 'white.' Thus, a user need not manually enter the parameter. Instead, the user need only select the radio button next to the appropriate parameter.

In the embodiments discussed above, the user inputs information manually into the computer. In other embodiments, the computer program would read such information from a file or from a website such as an automobile vendor website, an auction website, or reverse auction website. In other embodiments, the computer program would read such information from the server. In such embodiments, the computer program need not display fields for receiving such information.

In some embodiments of the invention, a first computer may be utilized to enter parameter names, parameter types and/or rules while a second computer is utilized to enter parameters and display assessments. Similarly, a first server may be utilized to generate functions while a second server may be utilized to generate assessments of one or more parameters.

5.9 Benefits of Certain Embodiments of the Invention

Embodiments of the invention provide a user with little technical experience the ability to easily perform assessments of one or more parameters. Such assessments are possible even if the user has no computer programming skills. Thus, the user can rapidly
5 make accurate assessments.

Embodiments of the invention also allow a user to rapidly generate custom assessments. Thus, the user can generate an automobile purchase assessment, an employee assessment, and then a marketing assessment in rapid succession. Because the above described assessment engine is flexible, the user is not required to utilize separate
10 tools to perform such assessments. Instead, the user can perform such assessments with a single tool, namely an embodiment of the above described assessment engine.

5.10 Conclusion

The foregoing descriptions of embodiments of the present invention have been
15 presented for purposes of illustration and description only. They are not intended to be exhaustive or to limit the present invention to the forms disclosed. Accordingly, many modifications and variations will be apparent to practitioners skilled in the art. For example, other embodiments of the invention are shown in Figure 7 and Figure 8. In addition, still other embodiments of the invention include a program storage device, such
20 as a hard disk, a floppy disk, a compact disk (CD), a digital versatile disk (DVD), a digital tape, random access memory (RAM), or read only memory (ROM), that contain computer readable instructions that when executed perform the methods discussed above.

Further, the above disclosure is not intended to limit the present invention. The scope of the present invention is defined by the appended claims.

100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000